4.5B WS Name _____

State the amplitude and period for each function.

1. y = 3sin2x 2. $y = \frac{5}{2}\cos(\frac{x}{2})$ 3. $y = \frac{1}{2}\sin(\frac{\pi x}{3})$ 4. y = -2sinx 5. y = 3sin 10x 6. $y = \frac{1}{2}\cos\frac{2x}{3}$

Describe the transformation for each function.

7. y = sin(x-π) 8. y = -cos 2x 9. y = sin2x + 3 10. $y = 2\cos(x + \frac{\pi}{2})$ 11. $y = 2\cos(2\pi x - 4)$

Write the equation of the function with the given information.

12. Sine function
Amp: 3
Period: π

13. Cosine function
Amp: 2
Period: 4π

14. Sine function
Amp: 2
Period: π
Phase shift: 2

15. Cosine function
Amp: 3
Period: $\frac{\pi}{2}$
Phase shift: -2

Graph the following. Label the axes. Provide the amplitude, period, phase shift, and vertical shift in the space provided. If any of these do not exist, write *none*. Show at least one positive and negative period.

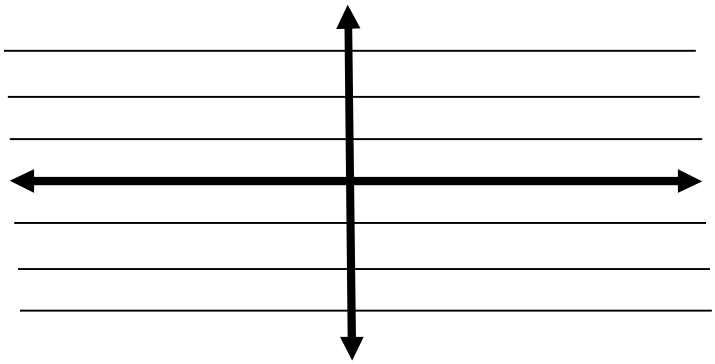
16. y = -2 sin 6x

Amp.= _____

Period = _____

P. S. = _____

V.S. = _____



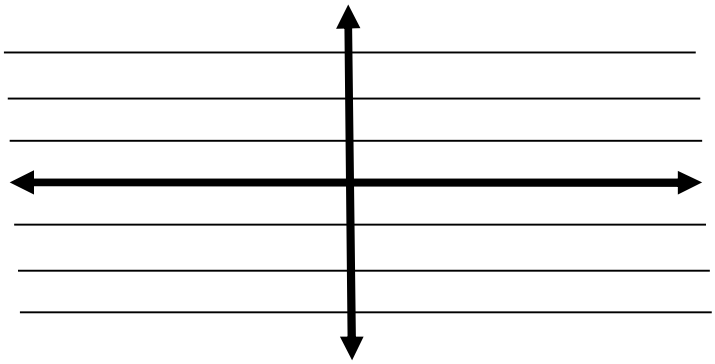
17. y = cos2πx

Amp.= _____

Period = _____

P. S. = _____

V. S. = _____



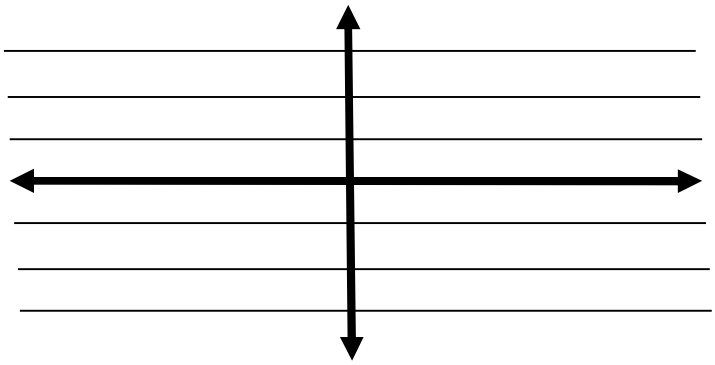
18. $y = \sin(x - \frac{\pi}{4})$

Amp.= _____

Period = _____

P. S. = _____

V. S. = _____



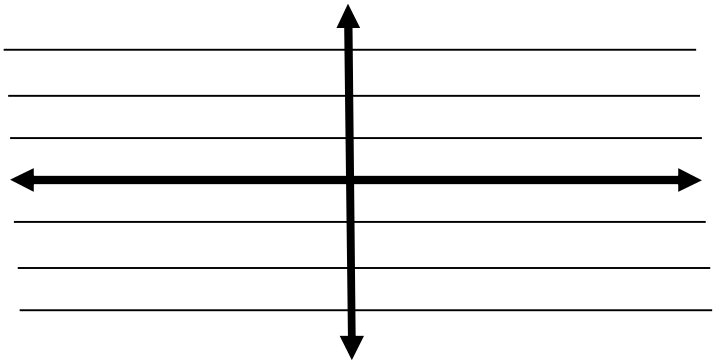
19. $y = 3\cos(x + \pi)$

Amp.= _____

Period = _____

P. S. = _____

V. S. = _____



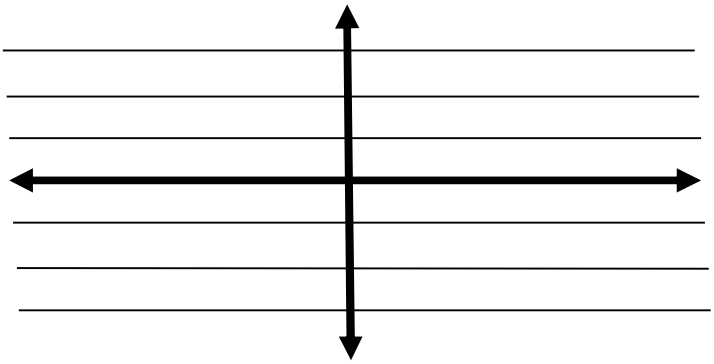
20. $y = 2 + \frac{1}{10}\cos 60\pi x$

Amp.= _____

Period = _____

P. S. = _____

V. S. = _____



21. $y = 3\sin(x + \pi) - 3$

Amp.= _____

Period = _____

P. S. = _____

V. S. = _____